

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An ~~array of RF antenna elements or sub-arrays, said array~~ comprising:

a plurality of antenna elements ~~or sub-arrays~~ spatially distributed over an array aperture;

at least some plurality of said antenna elements ~~or sub-arrays~~ each including at least one active component antenna element and at least one reactively-controlled parasitic component co-located element ~~associated with said active component element~~, and at least one controllably variable reactance load connected to said at least one ~~said parasitic component element~~; and

an array controller connected to control at least said variable reactance loads thereby to control, at least in part, a predetermined characteristic of said array.

2. (Currently Amended) An array as in claim 1 wherein said array controller is also connected to control RF signals being fed to/from said active components ~~elements~~ thereby to control, at least in part, a predetermined characteristic of said array.

3. (Currently Amended) A method for controlling at least one predetermined characteristic of an ~~array of RF antenna~~ array ~~elements or sub-arrays~~, said method comprising:

arranging a plurality of antenna elements ~~or sub-arrays~~ spatially distributed over an array aperture;

including in each of at least some plurality of said antenna elements ~~or sub-arrays~~ at least one active antenna element component and at least one reactively-controlled parasitic element ~~associated component co-located~~ with said active component element, and at least one

controllably variable reactance load connected to said at least one parasitic component~~element~~;
and

controlling changes in at least said variable reactance loads thereby to control, at least in part, a predetermined characteristic of said array.

4. (Currently Amended) A method as in claim 3 further comprising:

controlling RF signals being fed to/from said active components~~elements~~ thereby to control, at least in part, a predetermined characteristic of said array.

5. (Currently Amended) A method for providing a reconfigurable antenna, said method comprising:

~~selectively placing co-locating a reactively-controlled parasitic~~ components~~elements~~ in the aperture of each of plural active antenna components~~elements~~ in a phased array; and

controlling said parasitic components by changing the value of a reactance connected thereto ~~elements~~ to change the operational characteristics of the corresponding co-located active antenna components~~elements~~.

6. (Currently Amended) A method as in claim 5 wherein said parasitic components~~elements~~ are controlled by either switching reactive load values in and out that are connected to the parasitic components~~elements~~ or by applying control voltages to variable reactance circuits.

7. (Previously Presented) A method as in claim 6 wherein at least some of said variable reactance circuits include a varactor.

8. (Currently Amended) A method as in claim 5 wherein parasitic components~~elements~~ are controlled by use of a feedback control subsystem that adjusts RF properties of the parasitic components based on an observed metric.

9. (Currently Amended) A method as in claim 5 wherein the parasitic components ~~elements~~ are controlled to effect changes in at least one of the group of characteristics consisting of directivity, frequency tuning, instantaneous bandwidth, polarization and radar cross section.

10. (Currently Amended) An array as in claim 1 wherein:
said array controller is configured and connected to independently control different antenna parasitic components ~~elements~~.

11. (Currently Amended) A method as in claim 3 wherein:
said controlling step includes independent control of different antenna parasitic components ~~elements~~.

12. (Currently Amended) A method as in claim 5 wherein:
said controlling step includes independent control of different antenna parasitic components ~~elements~~.

13. (Currently Amended) An array as in claim 1 wherein:
said array controller is configured and connected to control the RF/electrical properties of the ~~at least one~~ parasitic components ~~element~~ as well as the phase of an associated antenna active components ~~element or sub-array~~ thereby achieving control over at least an array beam pointing angle.

14. (Currently Amended) A method as in claim 3 wherein:
said controlling step includes controlling the RF/electrical properties of the ~~at least one~~ parasitic components ~~element~~ as well as the phase of an associated antenna active components ~~element or sub-array~~ thereby achieving control over at least an array beam pointing angle.

15. (Currently Amended) A method as in claim 5 wherein:

said controlling step includes controlling the RF/electrical properties of the at least one parasitic components element as well as the phase of an associated antenna active components element or sub-array thereby achieving control over at least an array beam pointing angle.

16. (Currently Amended) An array as in claim 1 wherein:

said array controller includes a digital beamformer circuit from which information is extracted to at least assist in control of said ~~at least one~~ parasitic components element.

17. (Currently Amended) An array as in claim 16 wherein:

said digital beamformer circuit also provides phase control for said antenna active components elements.

18. (Currently Amended) A method as in claim 3 wherein:

said controlling step includes at least some digital beamformer control of said ~~at least one~~ parasitic components element.

19. (Currently Amended) A method as in claim 18 wherein:

said controlling step also includes at least some digital beamformer control of the phase of said antenna active components elements.

20. (Currently Amended) A method as in claim 5 wherein:

said controlling step includes at least some digital beamformer control of said ~~at least one~~ parasitic components element.

21. (Currently Amended) A method as in claim 20 wherein:

said controlling step also includes at least some digital beamformer control of the phase of said antenna active components elements.

22. (New) An RF antenna array as in claim 1 wherein sub-sets of said antenna

elements are connected for common control and thus form respective sub-arrays.

23. (New) A method as in claim 3 wherein sub-sets of said antenna elements are connected for common control and thus form respective sub-arrays.